

1.3% ( $\pm$  9.7) of the peak KAM and no reduction of the MA were measured. No reduction of KAM, MA or GRF was seen in the brace group at baseline and after 6 weeks. Subgroup analysis showed no differences in biomechanical effect for obesity, stage of OA and clinical response to the treatment.

**Conclusions:** Laterally wedged insoles unload the medial compartment only at baseline. No biomechanical alteration was seen after 6 weeks of wearing the insole. Valgus brace therapy did not result in any biomechanical alteration at baseline and after 6 weeks. Based on this study, the clinical effects of insoles and braces cannot be elucidated by a certain dynamical biomechanical effect.

### 830

#### EXERCISES WITH TELEPHONE FOLLOW-UP VERSUS USUAL CARE IN PEOPLE WITH HAND OSTEOARTHRITIS: A RANDOMISED CONTROLLED TRIAL

N. Østerås, K. Hagen, A-L. Sand-Svartrud, M. Grotle, I. Kjekken. *Diakonhjemmet Hosp., Oslo, Norway*

**Purpose:** To determine the effect of an exercise intervention with telephone follow-up on self-reported hand activity performance in people with hand osteoarthritis (OA).

**Methods:** In this randomised, controlled trial, persons with physician-confirmed hand OA were allocated to a 12-week exercise intervention, group and home based, with telephone follow-up or treatment as usual. The primary outcome was self-reported hand activity performance at the 3-month follow-up measured by the Functional Index for Hand Osteoarthritis (FIHOA) and a patient-generated measure of disability, the Patient-Specific Functional Scale (PSFS).

**Results:** Of 130 randomised participants (mean age 66 (SD 9); female 90%) 120 and 119 completed the 3- and 6-month follow-ups. The adjusted mean difference for the exercise vs. control group was -0.5 points (95% confidence interval (CI) -1.9, 0.08) for the FIHOA score (0-30 scale) and 0.9 points (95% CI 0.1, 1.7) for the PSFS score (0-10 scale). Small significant mean differences were found for hand pain, hand stiffness and disease activity, whereas no differences were observed in hand dexterity or maximal grip strength. A significantly larger proportion in the intervention (46%) vs. the control group (16%) fulfilled the OARS/OMERACT responder criteria at 3 months (OR=4.4, 95% CI 1.9, 10.2). At the 6-month follow-up there were no significant group differences in any outcome.

**Conclusions:** People with hand OA had small, beneficial short-term effects of an exercise programme with telephone follow-up. Studies addressing the optimal type and dose of grip strength exercise, and how to maintain the short-term effects over time are needed.

### 831

#### A HOME-BASED BIOMECHANICAL TREATMENT REDUCES PAIN AND IMPROVES FUNCTION AND GAIT PATTERN IN PATIENTS WITH CHRONIC NONSPECIFIC LOW BACK PAIN

A. Elbaz<sup>†</sup>, A. Mor<sup>†</sup>, G. Segal<sup>†</sup>, B.S. Lonner<sup>‡</sup>, Y. Barzilay<sup>§</sup>. <sup>†</sup>Apos Med. and Sports Technologies, Herzliya, Israel; <sup>‡</sup>Chief of the Div. of Spine Surgery, Mount Sinai Med. Ctr. Beth Israel Hosp., New York, NY, USA; <sup>§</sup>Dept. of Orthopedic Surgery, Hadassah Med. Ctr., Jerusalem, Israel

**Purpose:** Chronic non-specific low back pain (CNSLBP) accounts for the consumption of major portions of health care funds and financial compensation for temporary or permanent inability to work. Patients with CNSLBP alter their gait pattern and suffer from diminished physical function and increased pain. Rehabilitation programs aim to reduce the disability of CNSLBP patients. The purpose of the current study was to assess the changes in pain, function and gait pattern in patients suffering from CNSLBP following a 6 months home-based biomechanical treatment.

**Methods:** Sixty patients with CNSLBP underwent a spatio-temporal gait evaluation, using an electronic walkway mat, and completed the Oswestry Disability Index (ODI) and the Short Form Health Survey (SF-36) at three time points: pre-treatment and after 3 and 6 months of a home-based biomechanical treatment (AposTherapy). The treatment consists of a foot-worn biomechanical device that is individually calibrated to each patient based on his gait pattern and symptoms. Patients were instructed to walk with the device during

their daily routine for a specified amount of time over 6 months. Twenty four healthy, aged-matched individuals served as a reference group.

**Results:** Significant differences were found in all gait parameters between CNSLBP patients and healthy people at baseline ( $P < 0.01$  for all). There were no significant differences between groups in the gait parameters following therapy. Significant improvements were found in all gait parameters following 3 months of therapy including an increase in gait velocity (10.6%), step length (5.6%), cadence (5%), single limb support phase (2.1%) and a decrease in stance phase (1.2%). These improvements were maintained following 6 months of therapy ( $P < 0.01$  for all).

A Significant reduction of 3.7 points was found in the ODI score (a decrease of 13.3%) ( $p = 0.03$ ) and also in the SF-36 physical score (an increase of 15.9%) ( $P < 0.02$ ) and in the SF-36 mental score (an increase of 10.5%) ( $p = 0.05$ ) following 6 months of therapy. There were significant differences between CNSLBP patients and healthy people in the ODI score and in the SF-36 physical and mental scores both pre-treatment and following 6 months of therapy ( $P < 0.007$ ).

**Conclusions:** The examined home-based biomechanical treatment led to significant improvements in spatio-temporal gait pattern, reduction in pain, improved function and increased quality of life. Furthermore, after 6 months of therapy CNSLBP patients had similar gait pattern to healthy age-matched people. The level of pain, function and quality of life, however, did not reach those of healthy people.

### 832

#### GUIDELINE RECOMMENDATIONS FOR POST ACUTE POSTOPERATIVE PHYSIOTHERAPY IN TOTAL HIP AND KNEE JOINT REPLACEMENT SURGERY: ARE THEY USED IN DAILY CLINICAL PRACTICE?

W.F. Peter, R.G. Nelissen, T.P. Vliet Vlieland. *Leiden Univ. Med. Ctr., Leiden, Netherlands*

**Purpose:** In an evidence-based Dutch guideline on physiotherapy (PT) in hip and knee osteoarthritis, a number of recommendations on post-acute PT following Total Hip (THA) and Total Knee (TKA) Arthroplasty were included. Little is known on the uptake of these recommendations in daily clinical practice. Therefore the aim of this study is find out to what extent guideline recommendations regarding post-acute PT after THA and TKA are followed in daily PT clinical practice?

**Methods:** An online pilot survey on the delivery of post-acute, postoperative PT was sent to a random sample of 957 Dutch PTs who were members of the national professional organization. The survey included questions on the application (yes/no) of recommended treatment modalities (muscle strengthening and functional exercises), treatment modalities which were neither recommended nor advised against (Continuous Passive Motion (CPM) after TKA), treatment modalities which were advised against (electrical stimulation) and various treatment modalities for which no recommendation was formulated.

**Results:** In total, 219 PTs completed the questionnaire. They had a mean age of 40 years (SD 12.6), 120 (55 %) were female and 208 (95%) were working in primary care. The large majority reported the use of the recommended exercise modalities (muscle strengthening exercises  $n = 210$ , 96%, and functional exercises,  $n = 218$ , 99%). CPM, which was neither recommended nor advised against and electrical muscle stimulation which was not recommended, were provided by 3 PTs (1%). The numbers (%) of responders reporting the provision of treatment modalities for which no recommendations were formulated were patient education ( $n = 218$ , 99%), gait training ( $n = 208$ , 95%), active range of motion (ROM) exercises ( $n = 204$ , 93%), balance exercises ( $n = 188$ , 86%), passive ROM exercises ( $n = 126$ , 58%), aerobic exercises ( $n = 109$ , 50%), massage ( $n = 39$ , 18%), and cold therapy ( $n = 25$ , 11%).

**Conclusions:** The large majority of PT reported to adhere with recommendations on post-acute postoperative PT in THA and TKA. Although to be confirmed in a larger nationwide survey, the relatively high frequency of use of many other treatment modalities for which no recommendations were formulated, seems to substantiate the need to extend the current set of recommendations with evidence-based statements on additional treatment modalities.